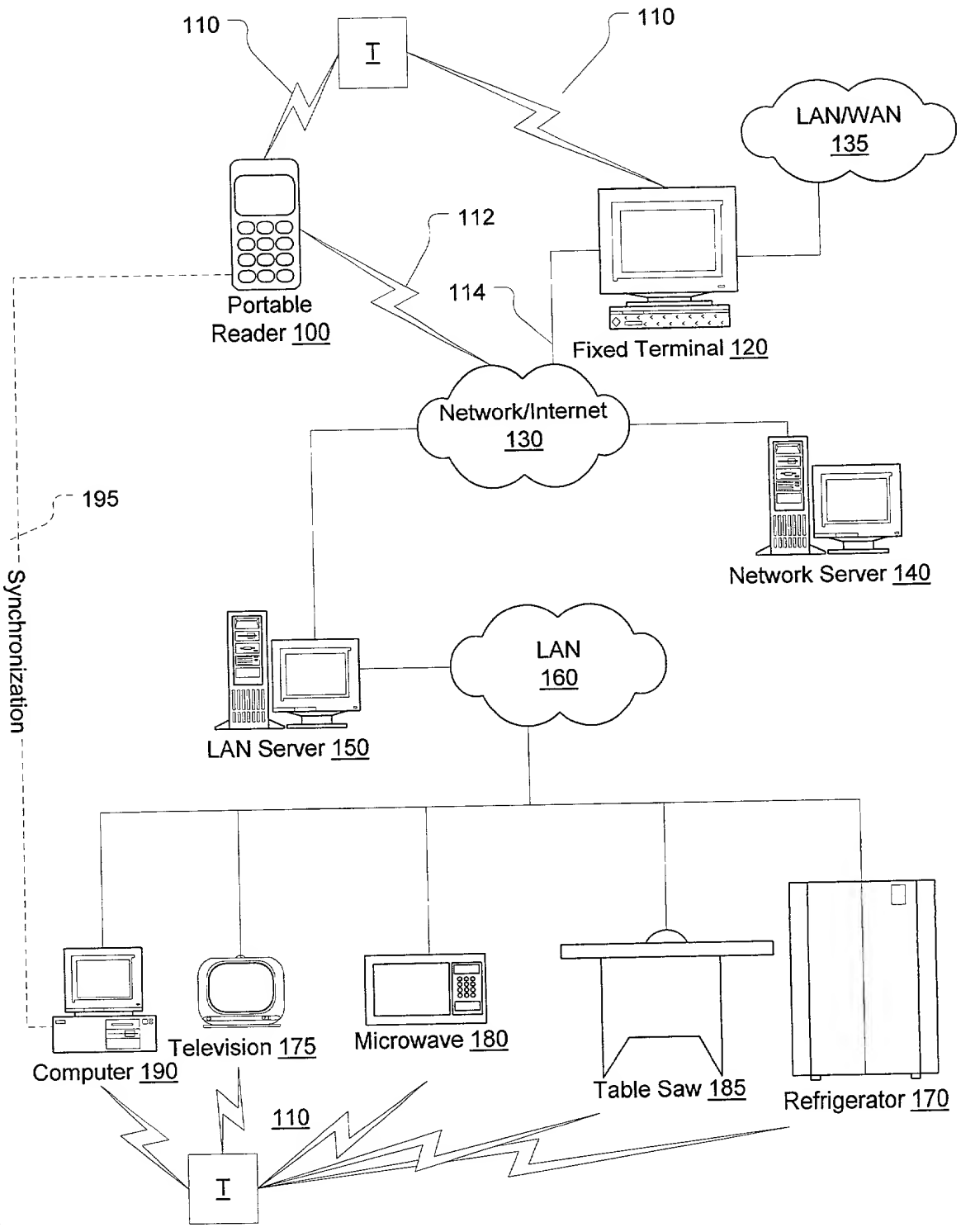
110
T
110
LAN/WAN
135
112
Portable
Reader 100
114
Fixed Terminal 120
Network/Internet
130
195
Synchronization
Network Server 140
LAN
160
LAN Server 150
Computer 190
Television 175
Microwave 180
Table Saw 185
Refrigerator 170
110
T

Fig. 1

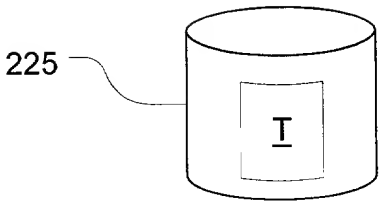

Fig. 2

Fig. 3

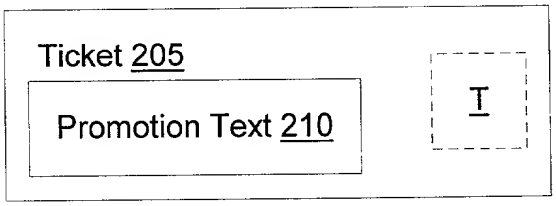

Fig. 4

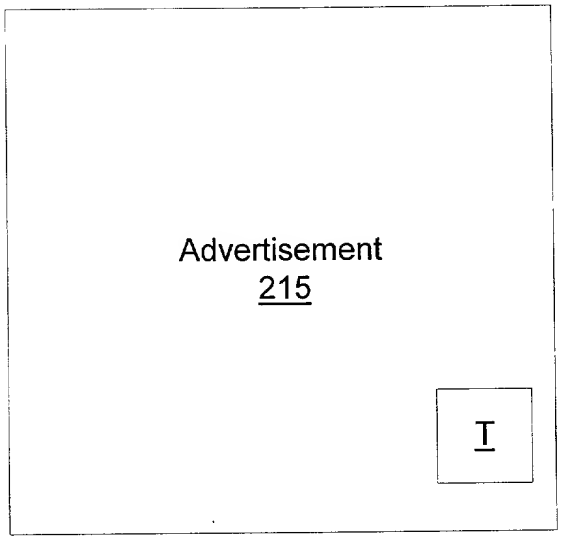

Fig. 5

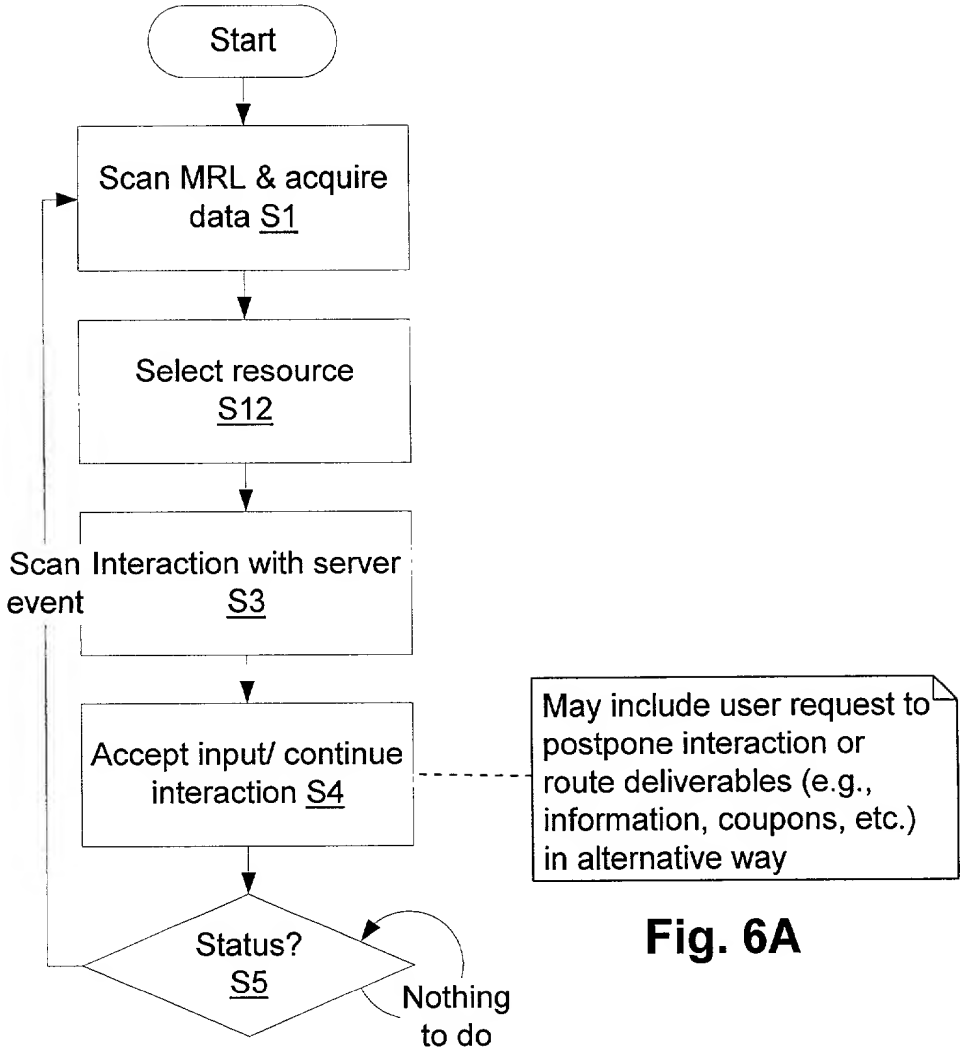
Start
Scan MRL & acquire data S1
Select resource S12
Scan event
Interaction with server S3
Accept input/ continue interaction S4
May include user request to postpone interaction or route deliverables (e.g., information, coupons, etc.) in alternative way
Status? S5
Nothing to do

Fig. 6A

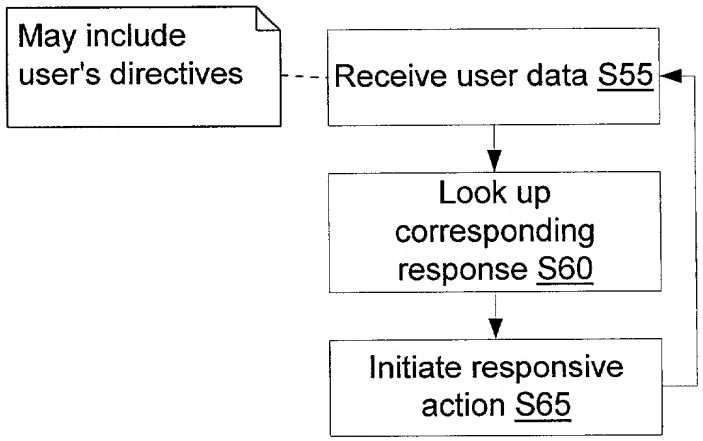
May include user's directives
Receive user data S55
Look up corresponding response S60
Initiate responsive action S65

Fig. 6B

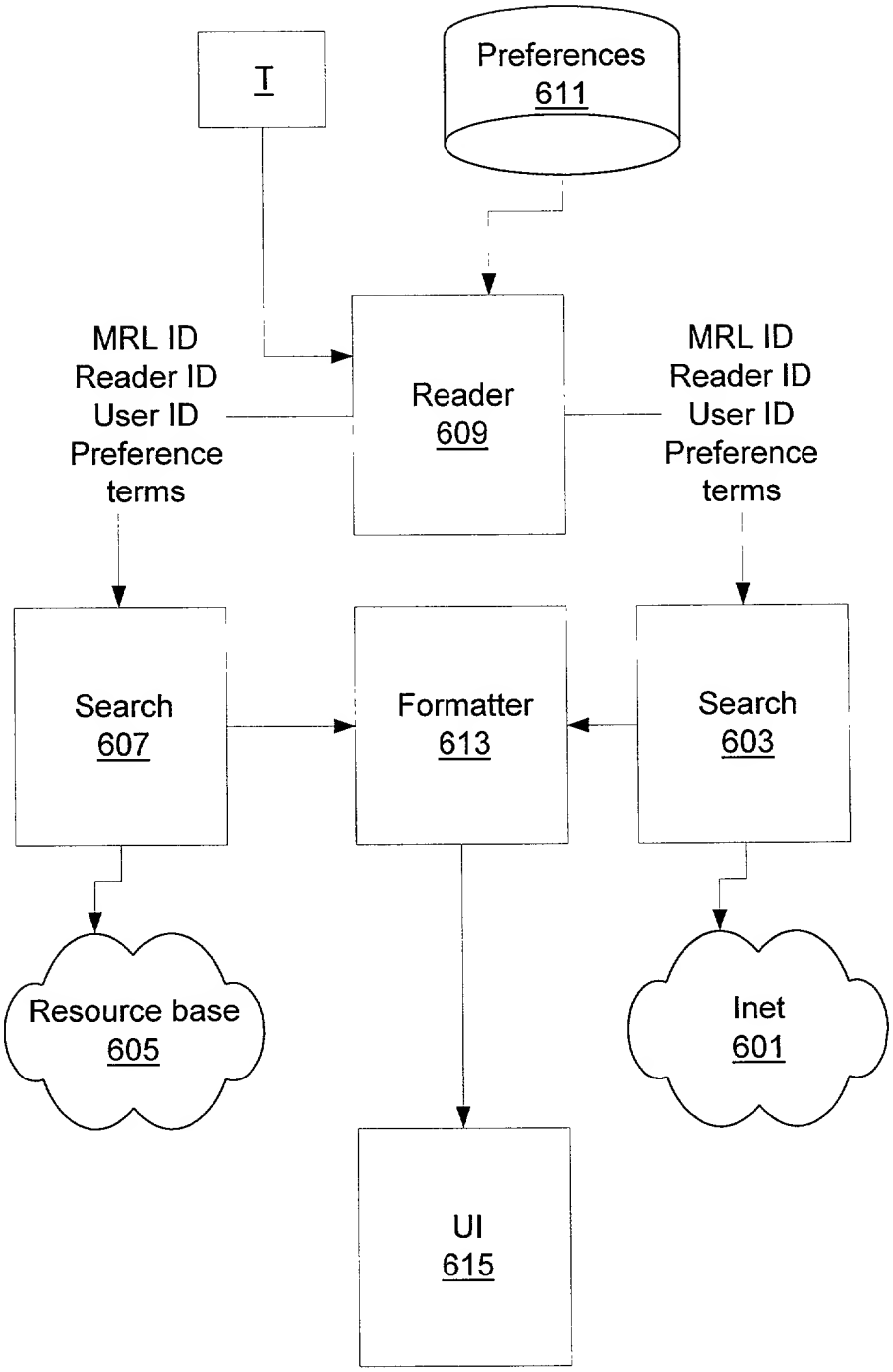
T
Preferences
611
MRL ID
Reader ID
User ID
Preference
terms
Reader
609
MRL ID
Reader ID
User ID
Preference
terms
Search
607
Formatter
613
Search
603
Resource base
605
Inet
601
UI
615

Fig. 7

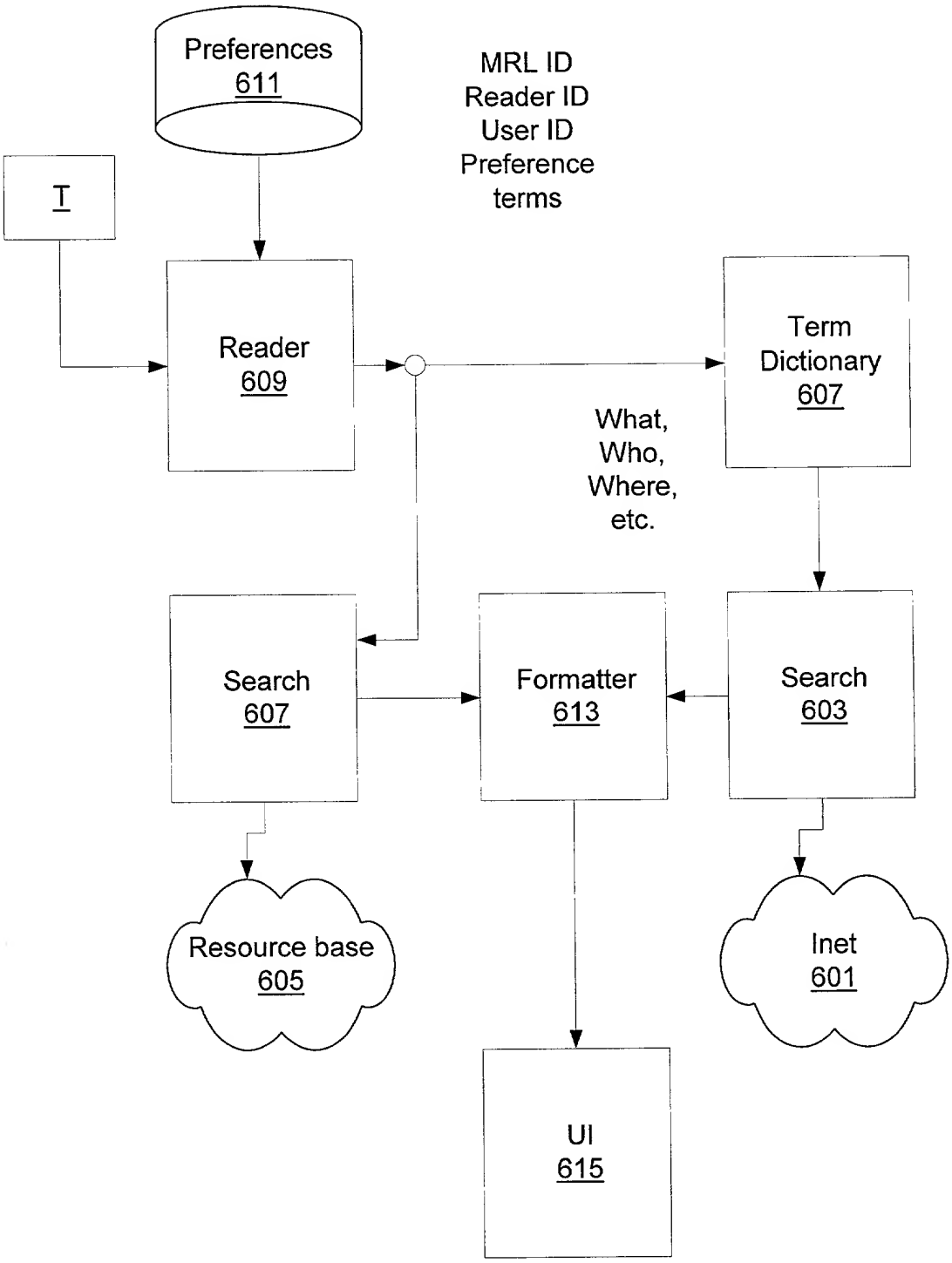
Preferences
611
MRL ID
Reader ID
User ID
Preference
terms
T
Reader
609
Term
Dictionary
607
What,
Who,
Where,
etc.
Search
607
Formatter
613
Search
603
Resource base
605
Inet
601
UI
615

Fig. 8

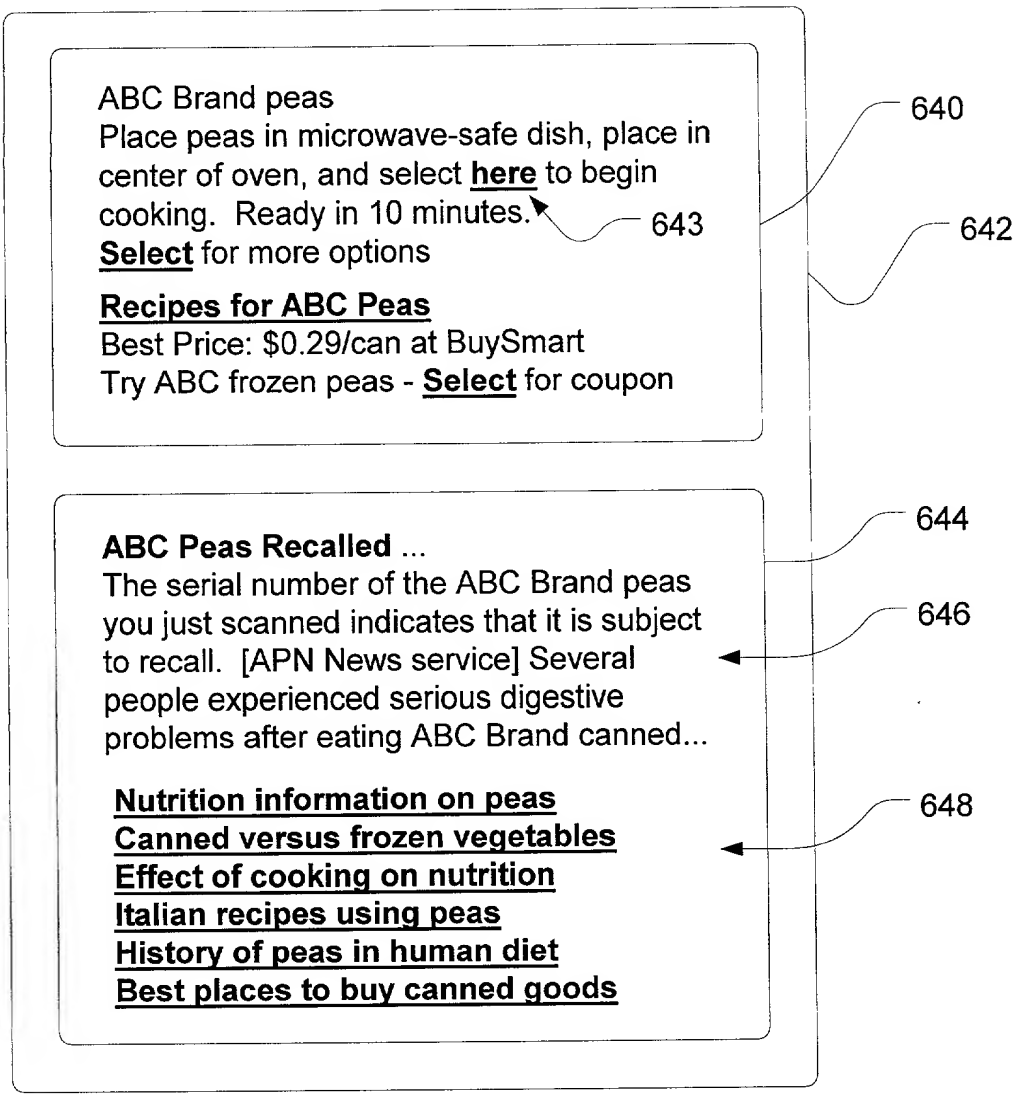
ABC Brand peas
Place peas in microwave-safe dish, place in center of oven, and select here to begin cooking. Ready in 10 minutes.
Select for more options
Recipes for ABC Peas
Best Price: $0.29/can at BuySmart
Try ABC frozen peas - Select for coupon
ABC Peas Recalled ...
The serial number of the ABC Brand peas you just scanned indicates that it is subject to recall. [APN News service] Several people experienced serious digestive problems after eating ABC Brand canned...
Nutrition information on peas
Canned versus frozen vegetables
Effect of cooking on nutrition
Italian recipes using peas
History of peas in human diet
Best places to buy canned goods
640
642
643
644
646
648

Fig. 9

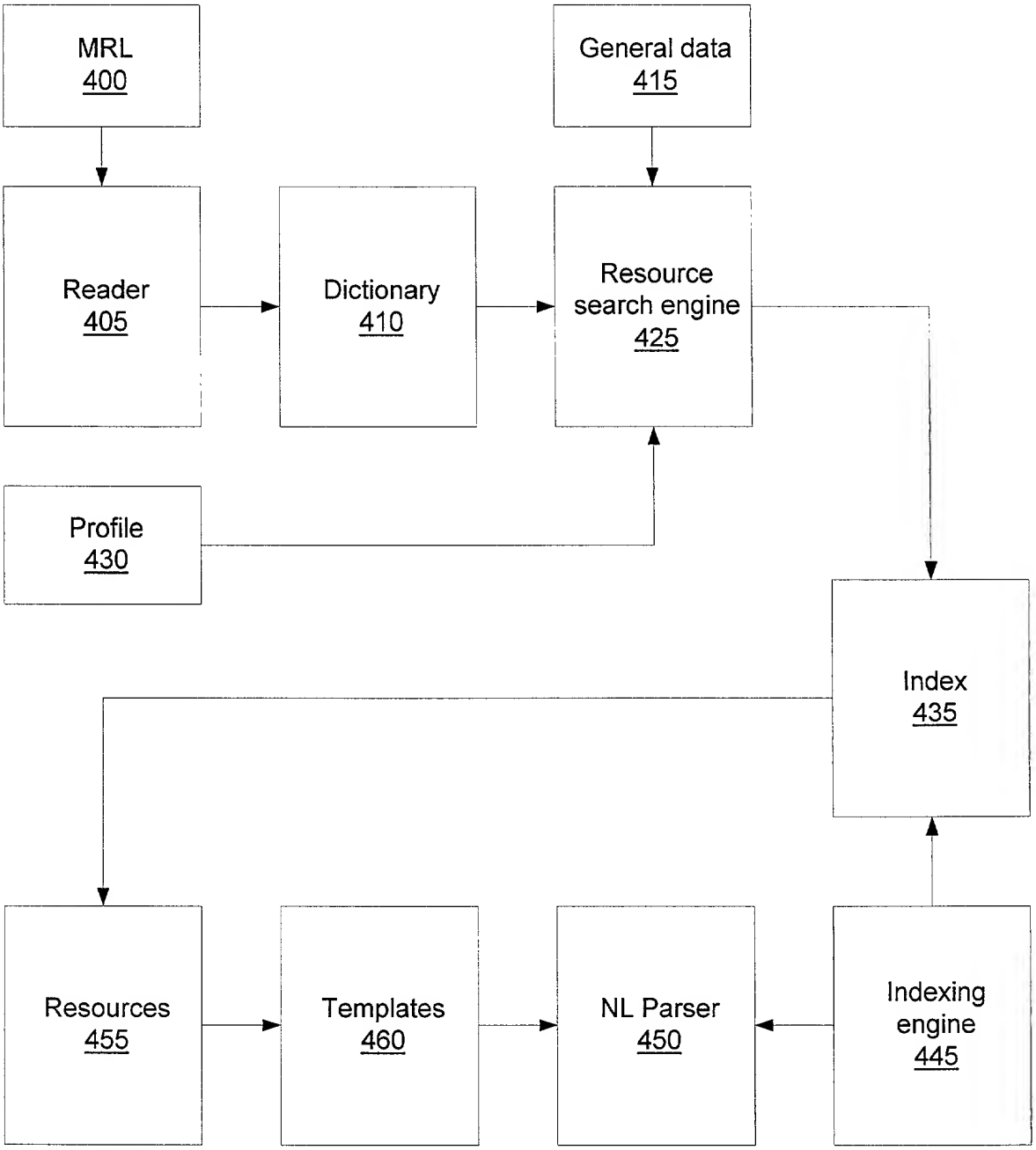
MRL
400
General data
415
Reader
405
Dictionary
410
Resource search engine
425
Profile
430
Index
435
Resources
455
Templates
460
NL Parser
450
Indexing engine
445

Fig. 10

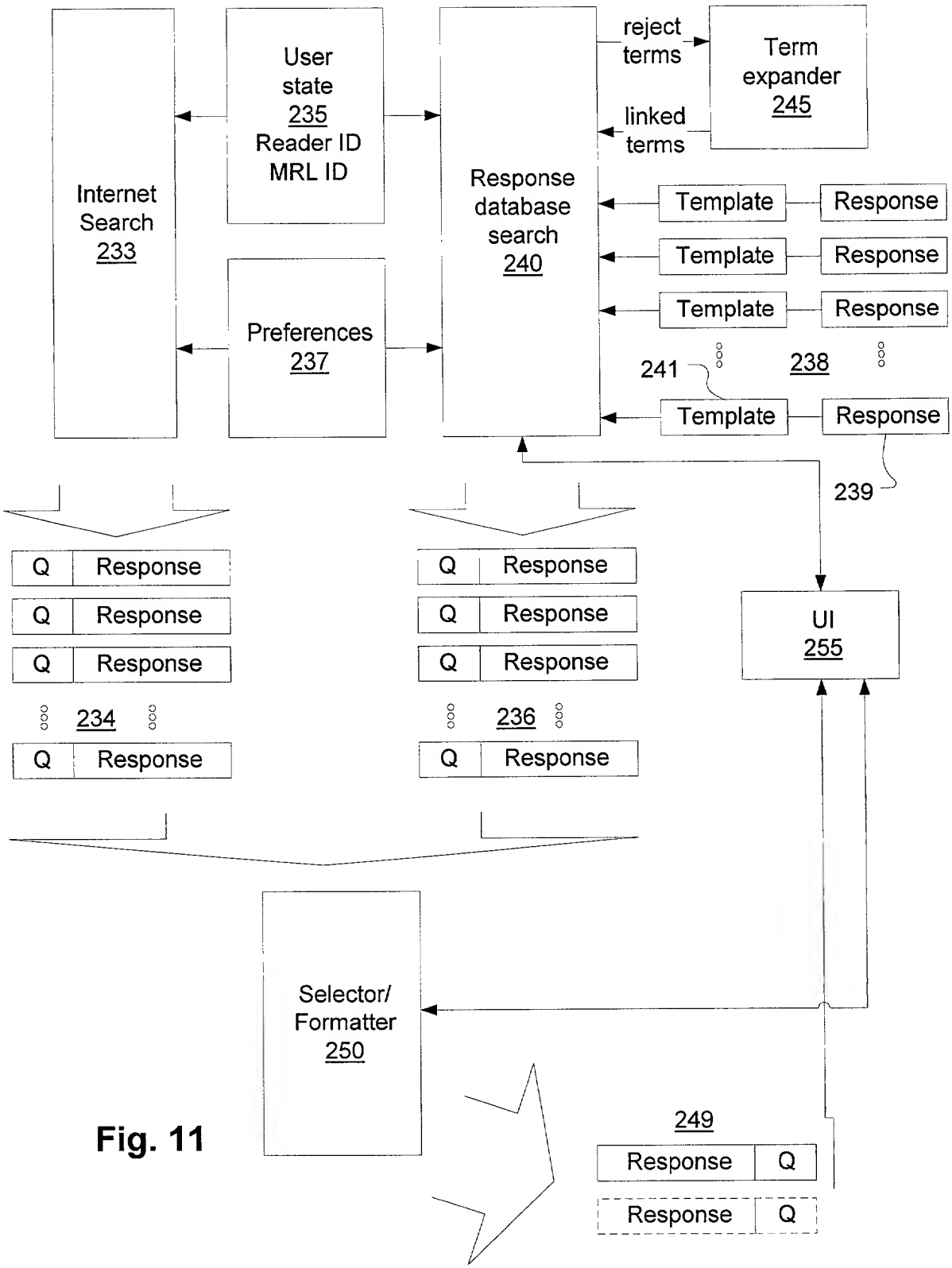
Internet Search 233
User state 235 Reader ID MRL ID
Preferences 237
Response database search 240
reject terms
linked terms
Term expander 245
Template
Response
241
238
239
Q
Response
234
236
UI 255
Selector/ Formatter 250
249

Fig. 11

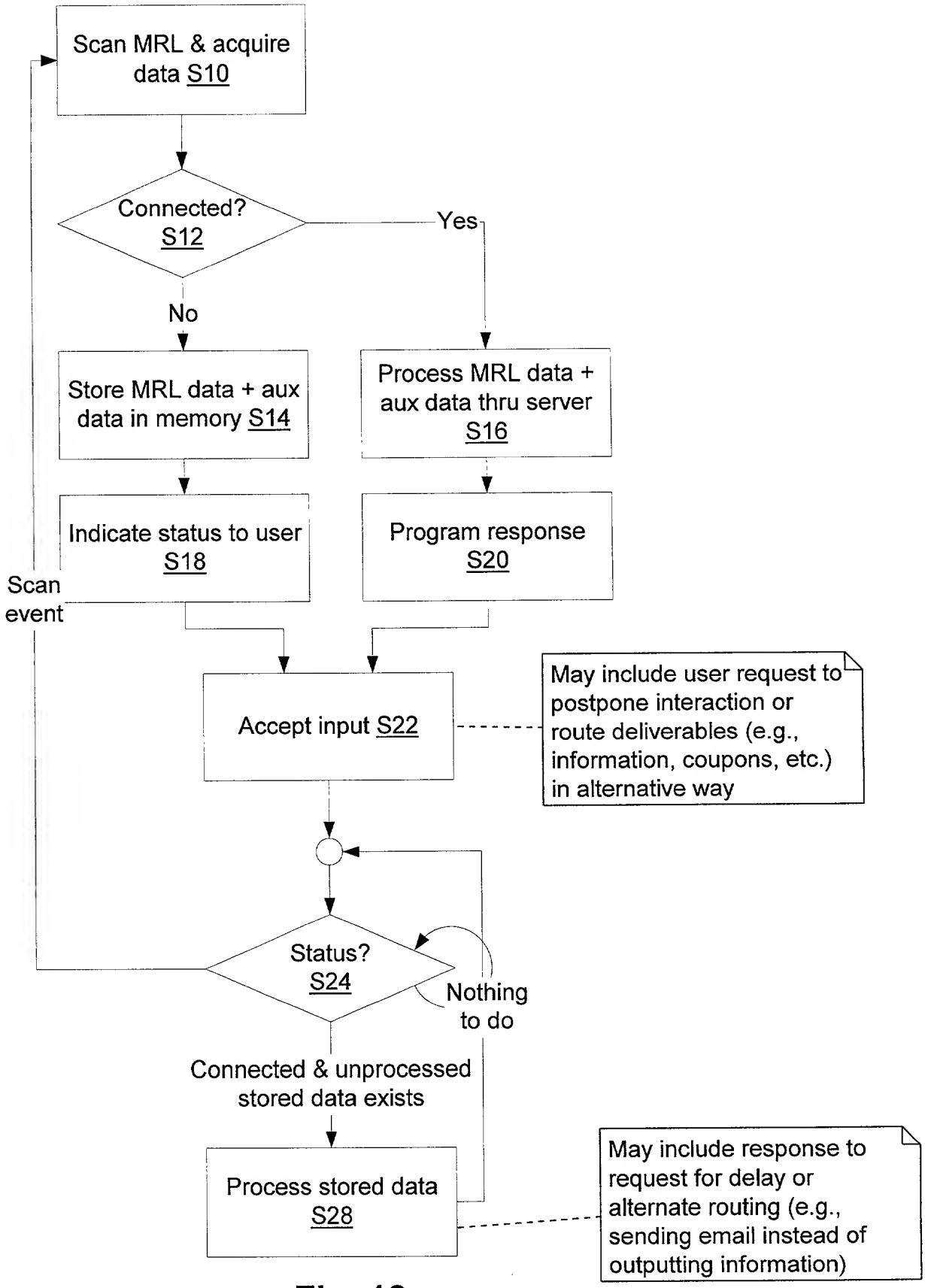
Scan MRL & acquire data S10
Connected? S12
Yes
No
Store MRL data + aux data in memory S14
Process MRL data + aux data thru server S16
Indicate status to user S18
Program response S20
Scan event
Accept input S22
May include user request to postpone interaction or route deliverables (e.g., information, coupons, etc.) in alternative way
Status? S24
Nothing to do
Connected & unprocessed stored data exists
Process stored data S28
May include response to request for delay or alternate routing (e.g., sending email instead of outputting information)

Fig. 12

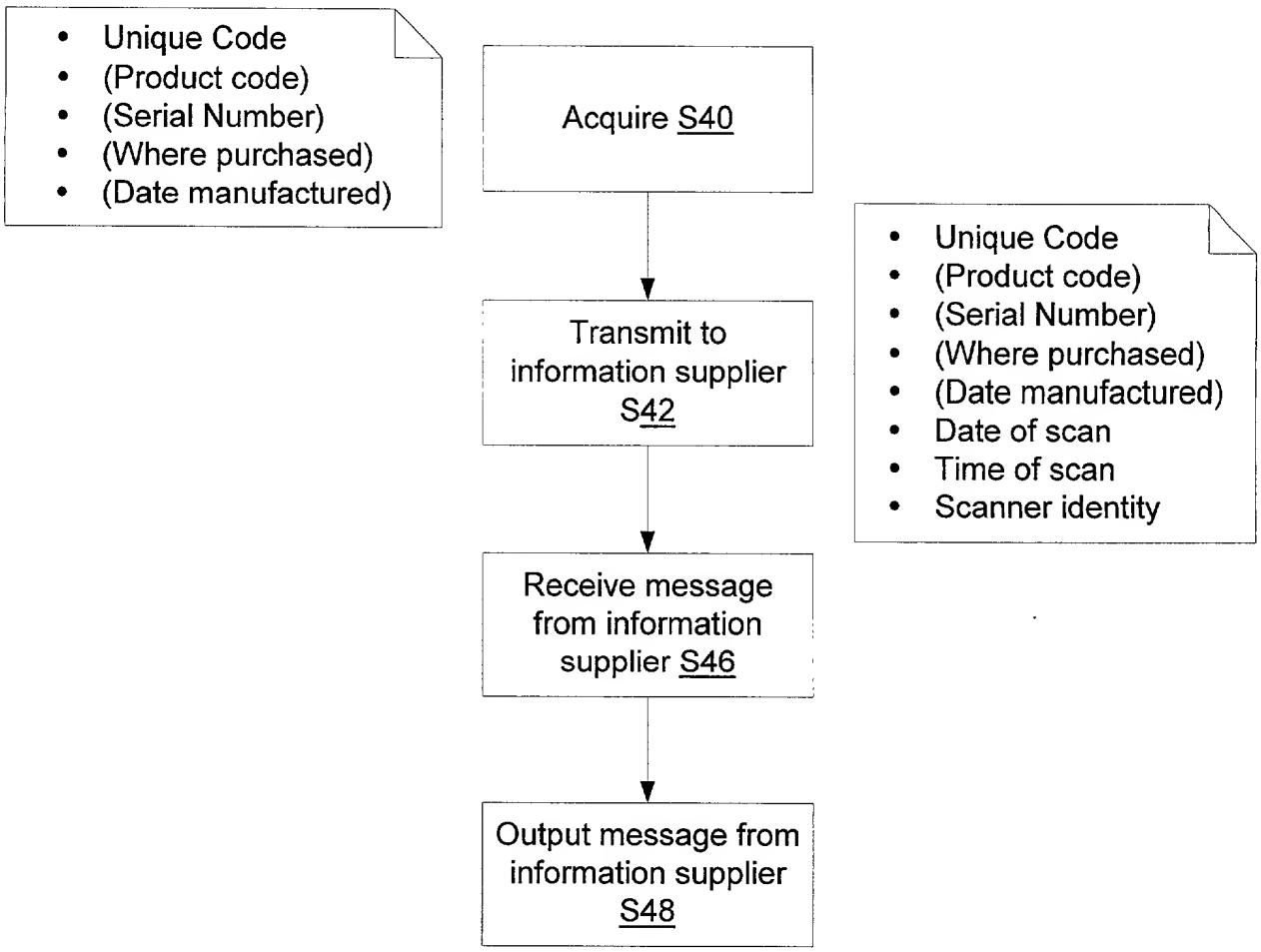
• Unique Code
• (Product code)
• (Serial Number)
• (Where purchased)
• (Date manufactured)
Acquire S40
Transmit to information supplier S42
Receive message from information supplier S46
Output message from information supplier S48
• Unique Code
• (Product code)
• (Serial Number)
• (Where purchased)
• (Date manufactured)
• Date of scan
• Time of scan
• Scanner identity

Fig. 13

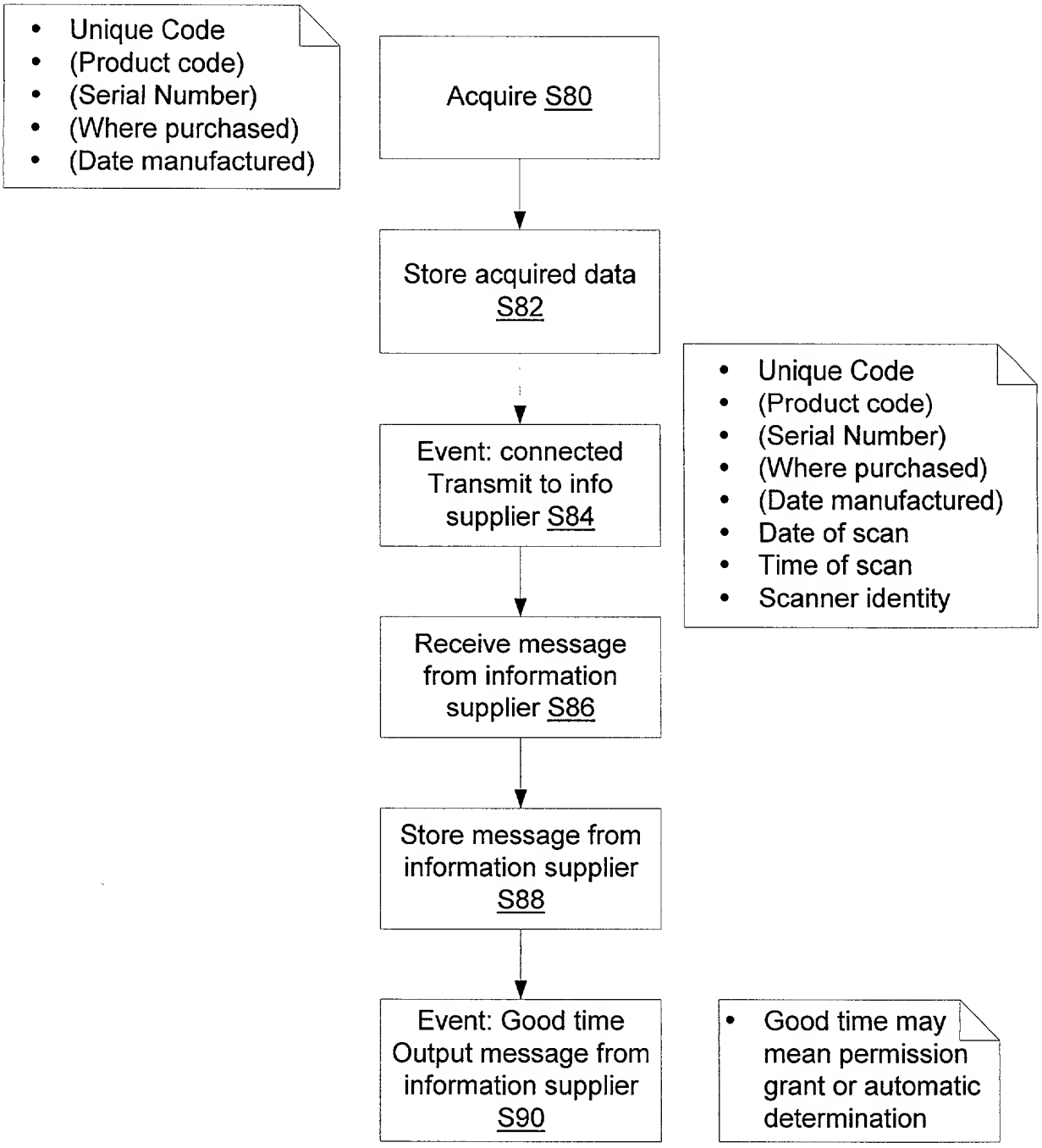
• Unique Code
• (Product code)
• (Serial Number)
• (Where purchased)
• (Date manufactured)
Acquire S80
Store acquired data S82
Event: connected Transmit to info supplier S84
Receive message from information supplier S86
Store message from information supplier S88
Event: Good time Output message from information supplier S90
• Unique Code
• (Product code)
• (Serial Number)
• (Where purchased)
• (Date manufactured)
• Date of scan
• Time of scan
• Scanner identity
• Good time may mean permission grant or automatic determination

Fig. 14

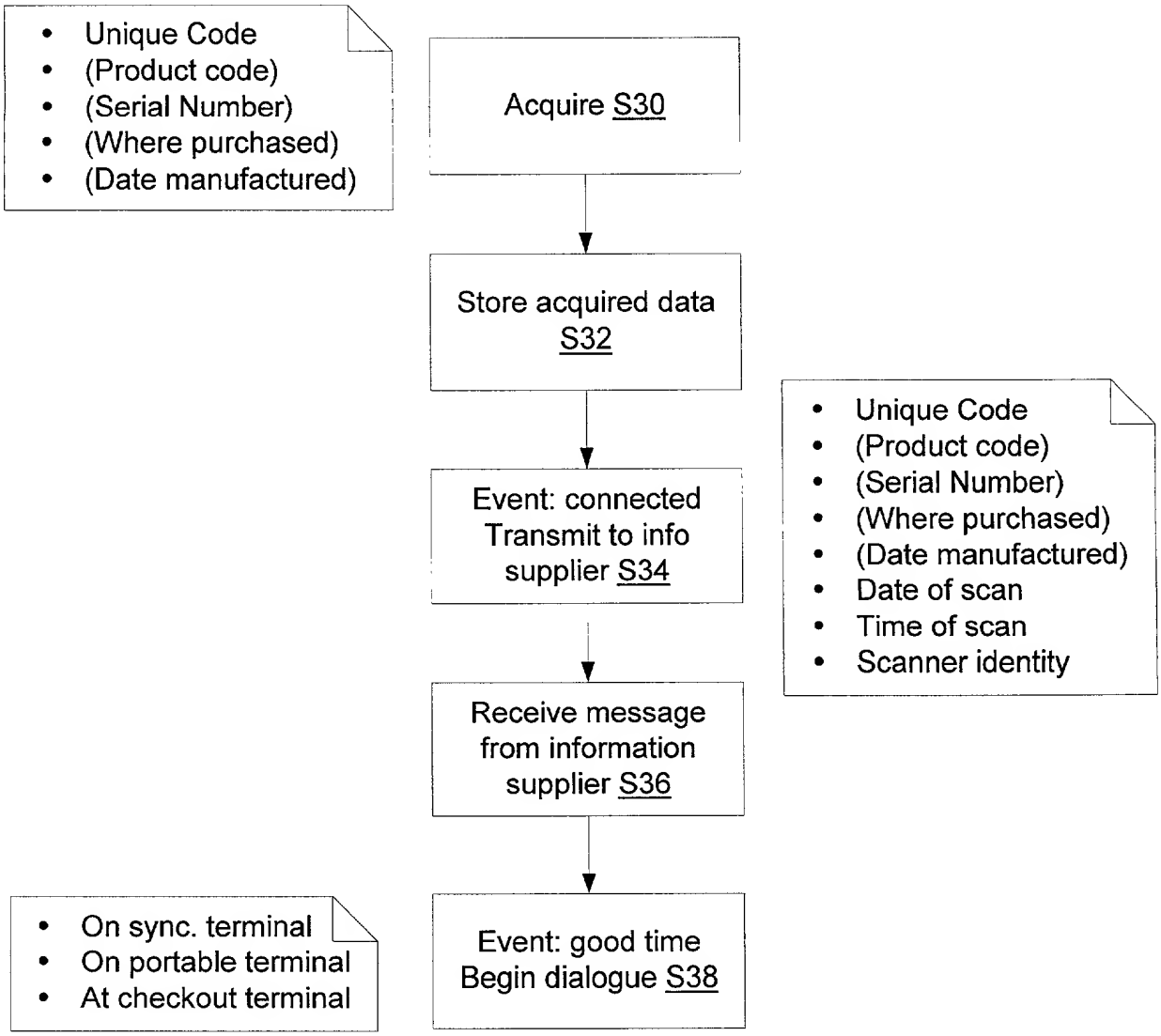
• Unique Code
• (Product code)
• (Serial Number)
• (Where purchased)
• (Date manufactured)
Acquire S30
Store acquired data S32
Event: connected Transmit to info supplier S34
Receive message from information supplier S36
Event: good time Begin dialogue S38
• Unique Code
• (Product code)
• (Serial Number)
• (Where purchased)
• (Date manufactured)
• Date of scan
• Time of scan
• Scanner identity
• On sync. terminal
• On portable terminal
• At checkout terminal

Fig. 15

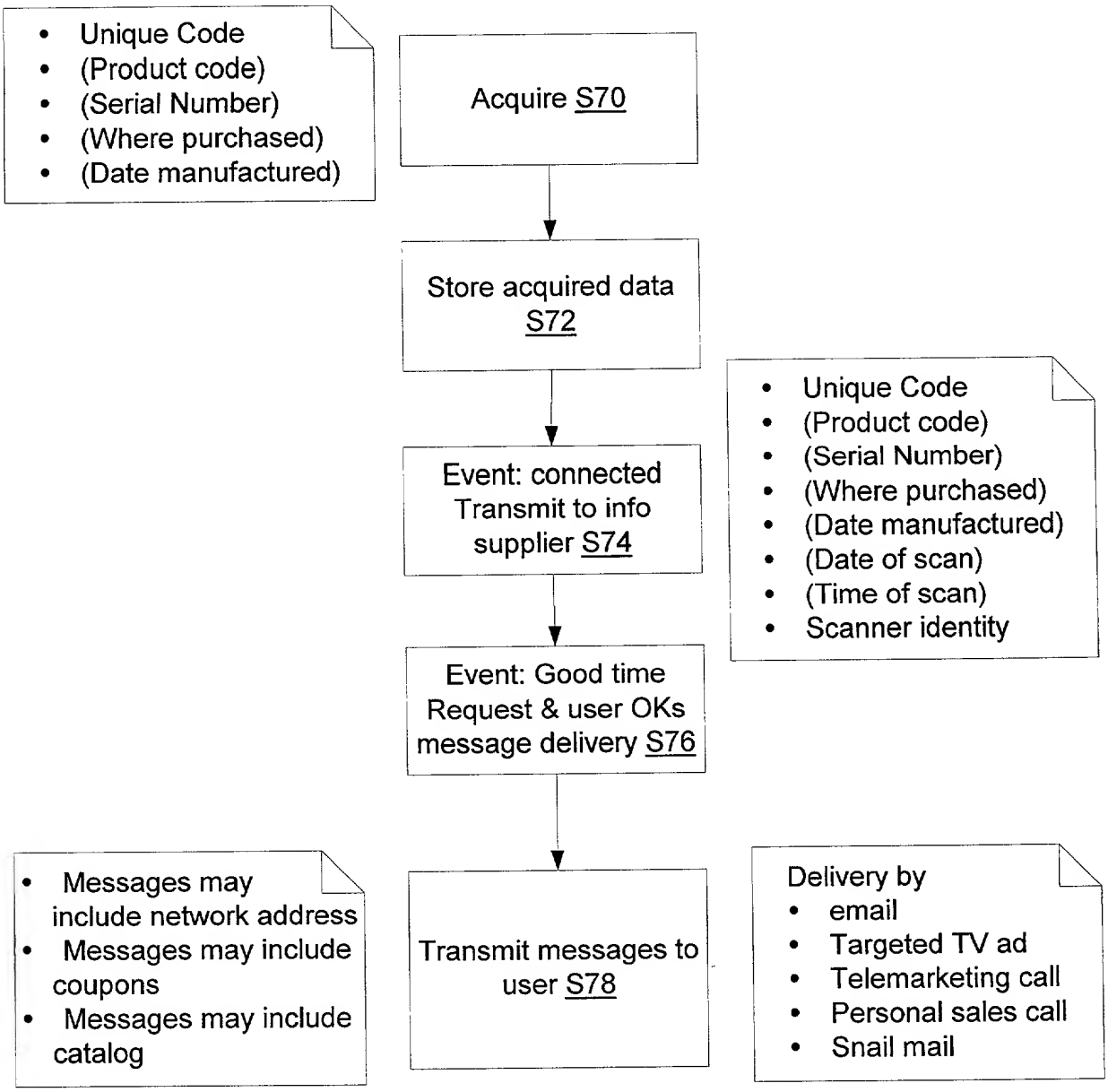
• Unique Code
• (Product code)
• (Serial Number)
• (Where purchased)
• (Date manufactured)
Acquire S70
Store acquired data S72
Event: connected Transmit to info supplier S74
• Unique Code
• (Product code)
• (Serial Number)
• (Where purchased)
• (Date manufactured)
• (Date of scan)
• (Time of scan)
• Scanner identity
Event: Good time Request & user OKs message delivery S76
• Messages may include network address
• Messages may include coupons
• Messages may include catalog
Transmit messages to user S78
Delivery by
• email
• Targeted TV ad
• Telemarketing call
• Personal sales call
• Snail mail

Fig. 16

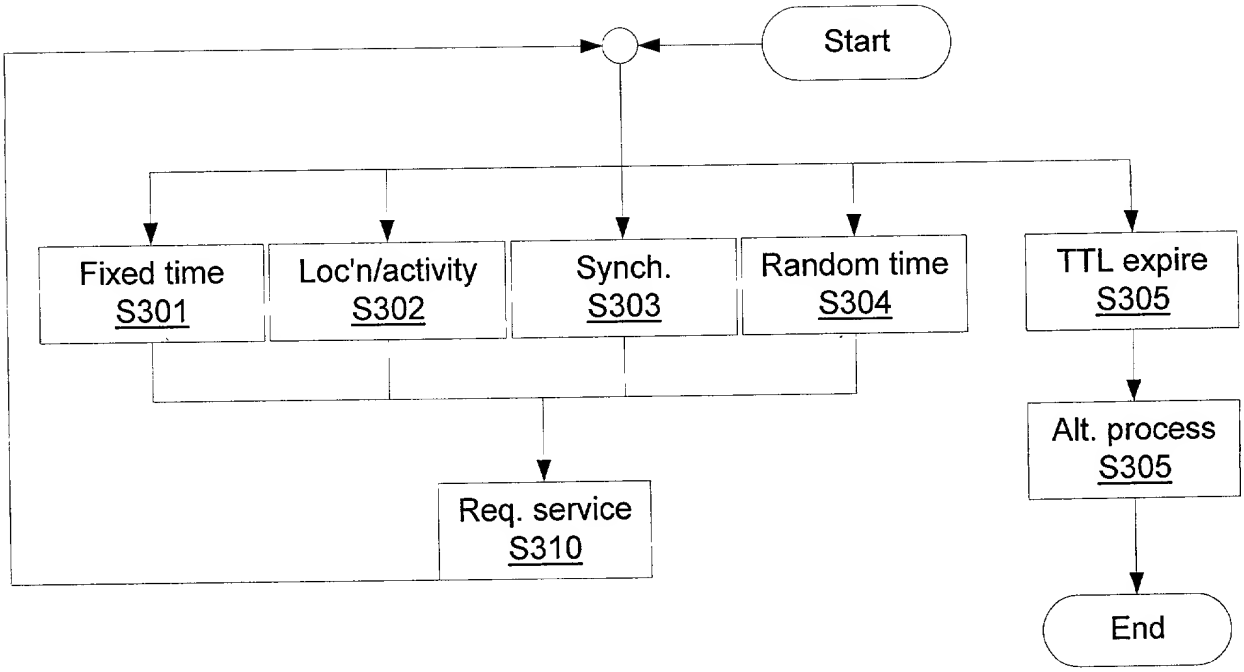
Start
Fixed time
S301
Loc'n/activity
S302
Synch.
S303
Random time
S304
TTL expire
S305
Alt. process
S305
Req. service
S310
End

Fig. 17

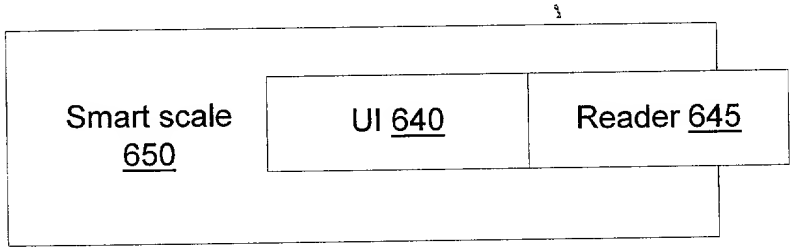
Smart scale
650
UI 640
Reader 645

Fig. 30

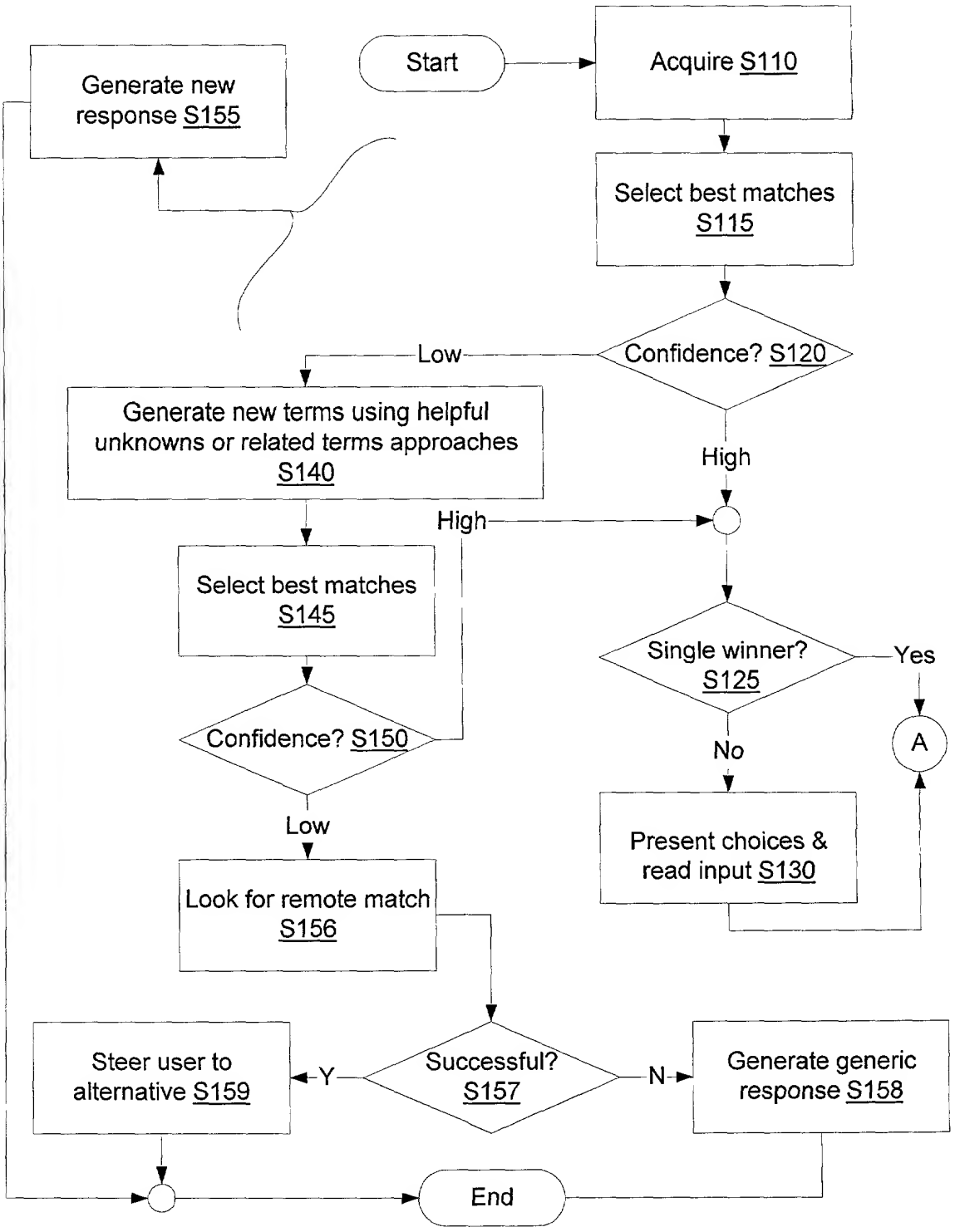
Start
Acquire S110
Select best matches S115
Confidence? S120
Low
High
Generate new terms using helpful unknowns or related terms approaches S140
High
Select best matches S145
Confidence? S150
Low
Look for remote match S156
Single winner? S125
Yes
No
A
Present choices & read input S130
Successful? S157
Y
N
Steer user to alternative S159
Generate generic response S158
Generate new response S155
End

Fig. 18

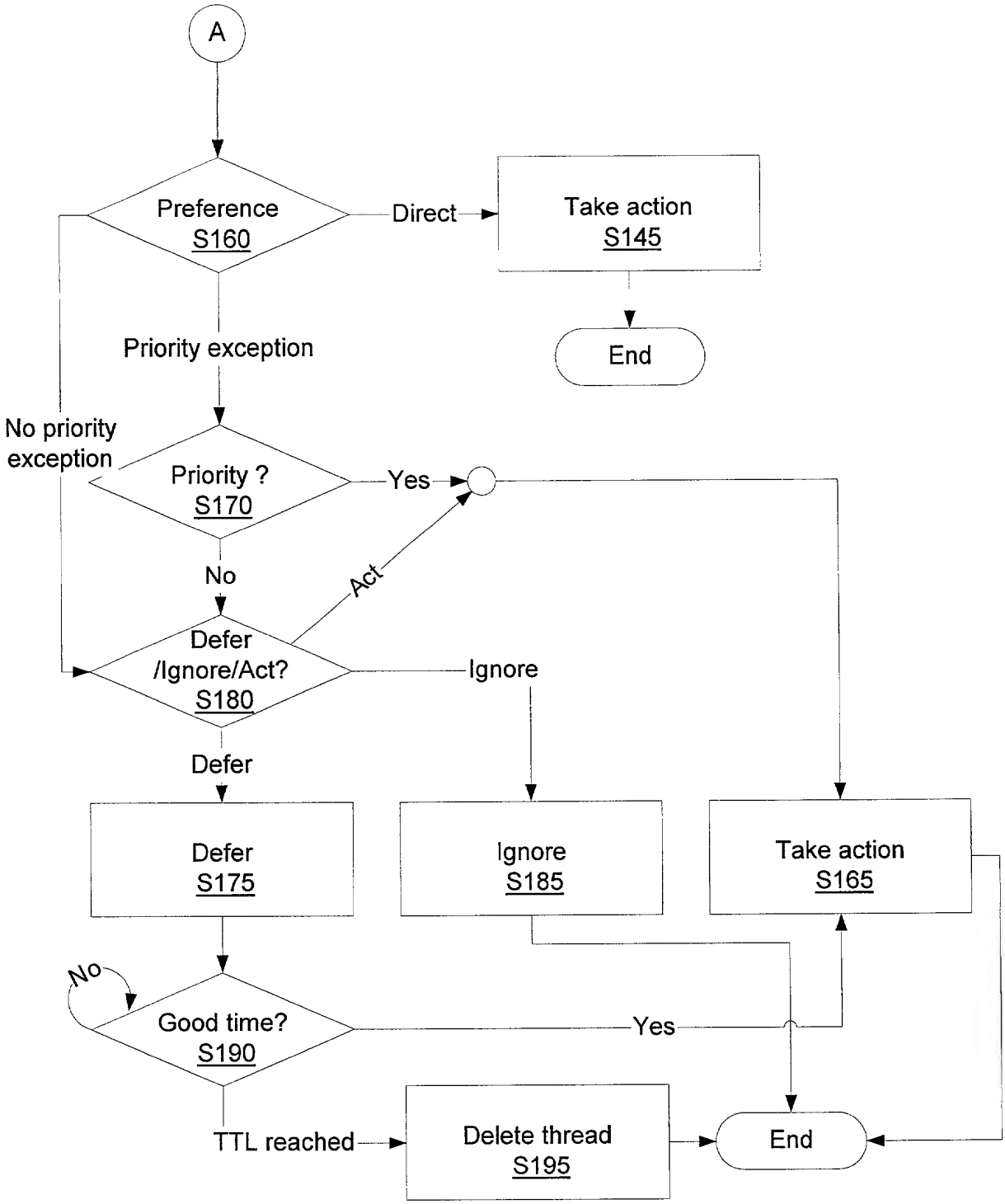
A
Preference
S160
Direct
Take action
S145
End
Priority exception
No priority
exception
Priority ?
S170
Yes
No
Act
Defer
/Ignore/Act?
S180
Ignore
Defer
Defer
S175
Ignore
S185
Take action
S165
No
Good time?
S190
Yes
TTL reached
Delete thread
S195
End

Fig. 19

Presence of user in vicinity of reader detected S405
Request and receive resource S407
Preference for tips, cross-sell, coupons, etc. S410
No
Yes
Deliver resource S415

Fig. 20

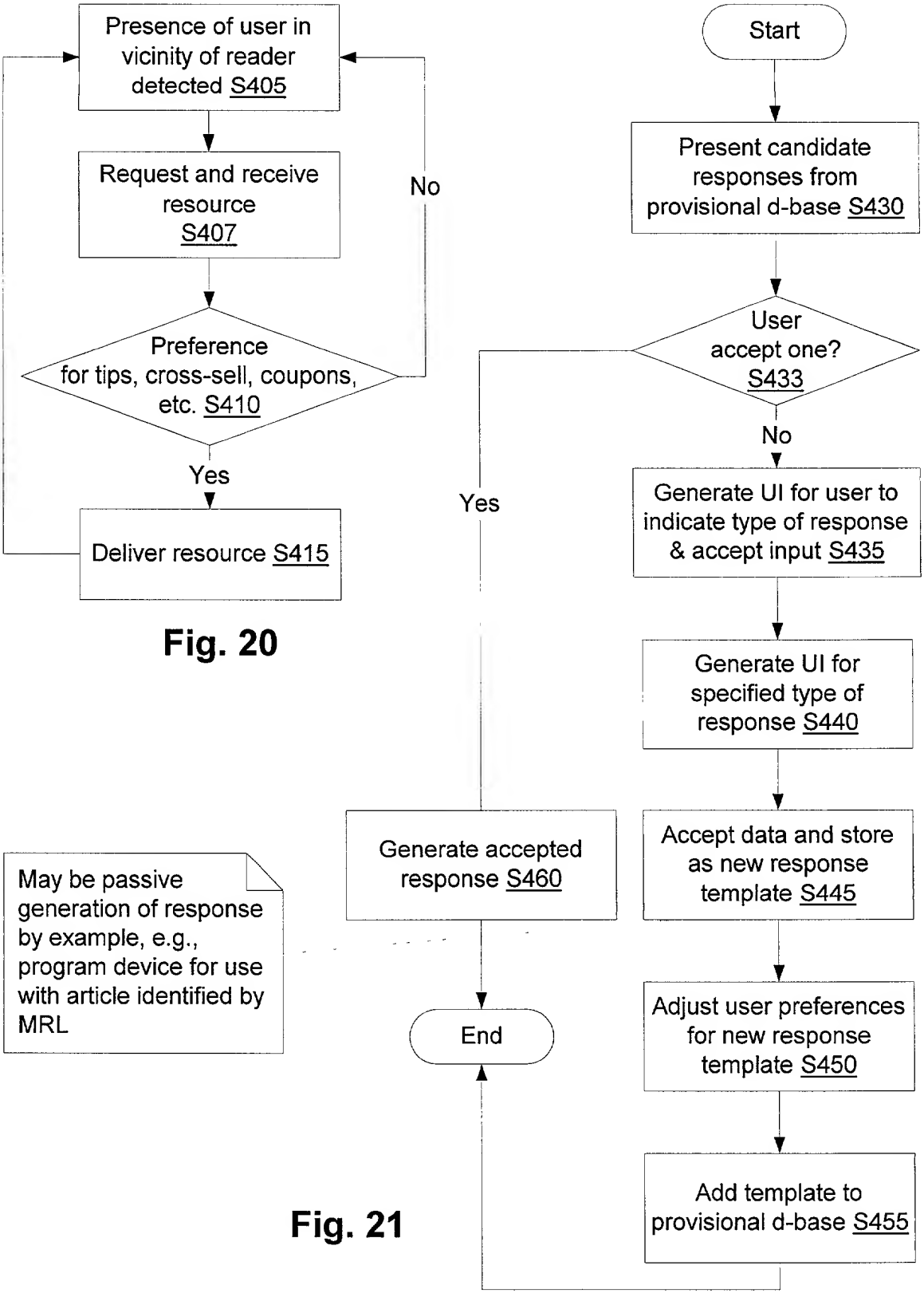
Start
Present candidate responses from provisional d-base S430
User accept one? S433
No
Yes
Generate UI for user to indicate type of response & accept input S435
Generate UI for specified type of response S440
Accept data and store as new response template S445
Adjust user preferences for new response template S450
Add template to provisional d-base S455
Generate accepted response S460
End
May be passive generation of response by example, e.g., program device for use with article identified by MRL

Fig. 21

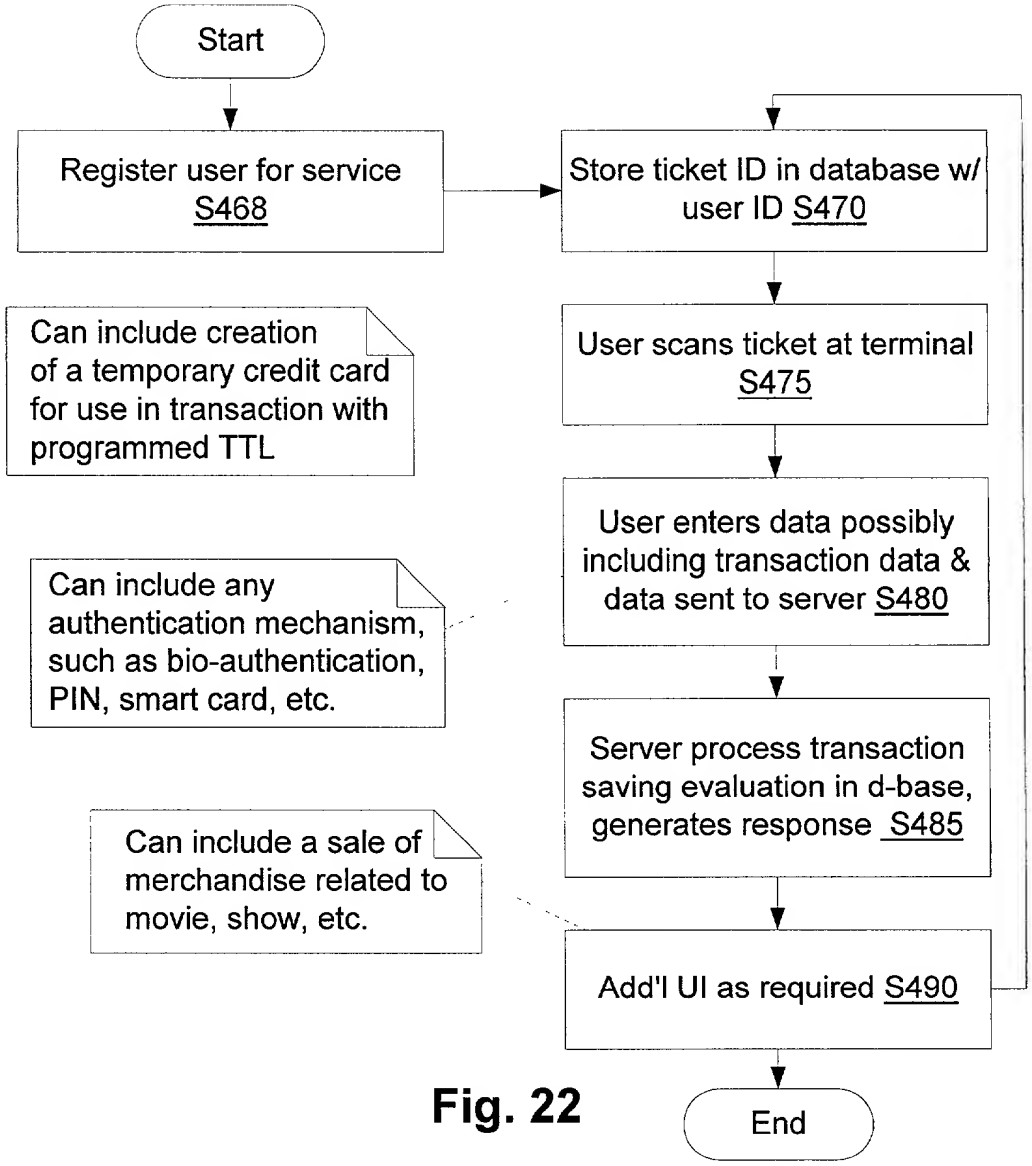
Start
Register user for service S468
Store ticket ID in database w/ user ID S470
Can include creation of a temporary credit card for use in transaction with programmed TTL
User scans ticket at terminal S475
User enters data possibly including transaction data & data sent to server S480
Can include any authentication mechanism, such as bio-authentication, PIN, smart card, etc.
Server process transaction saving evaluation in d-base, generates response S485
Can include a sale of merchandise related to movie, show, etc.
Add'l UI as required S490
End

Fig. 22

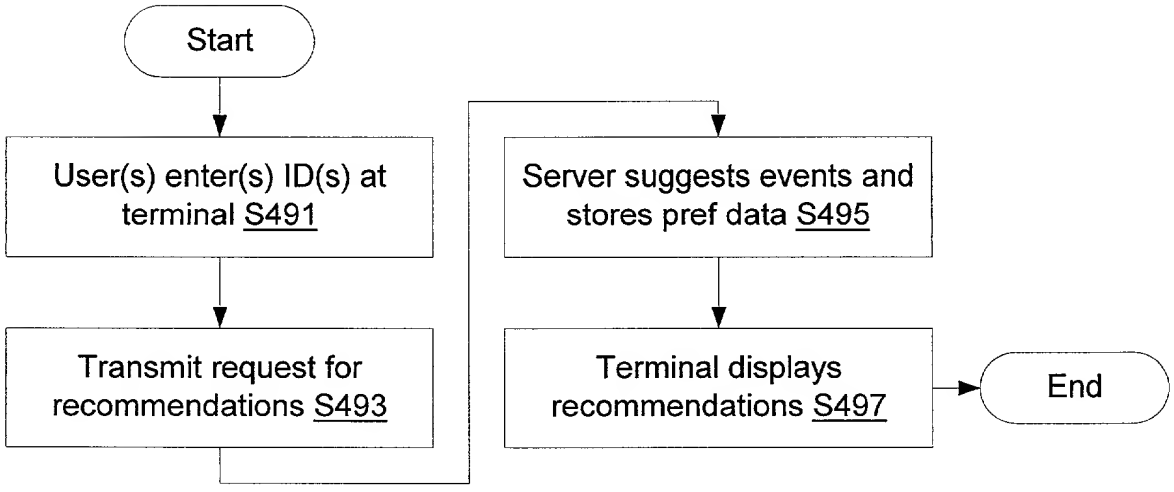
Start
User(s) enter(s) ID(s) at terminal S491
Transmit request for recommendations S493
Server suggests events and stores pref data S495
Terminal displays recommendations S497
End

Fig. 23

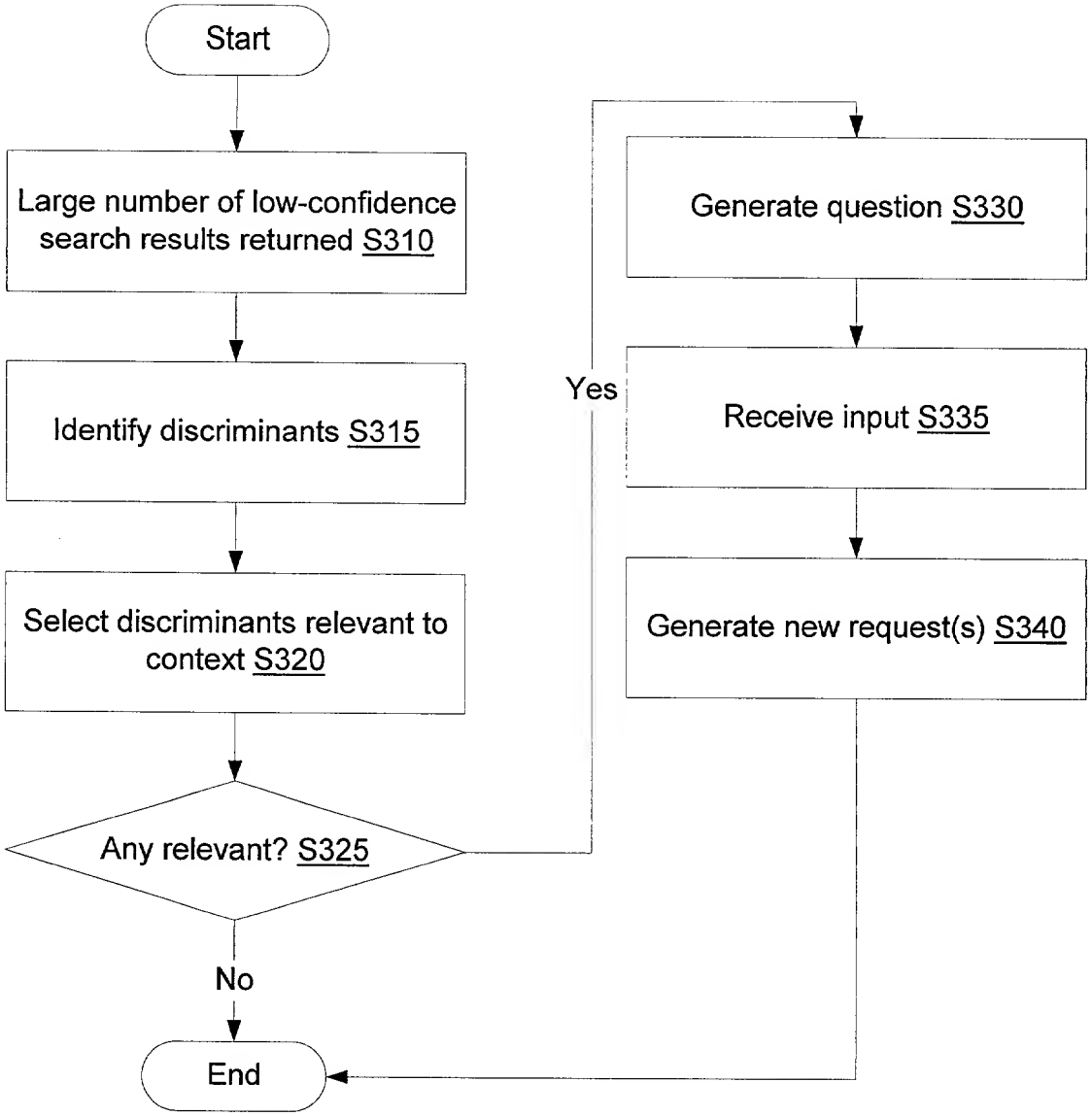
Start
Large number of low-confidence search results returned S310
Identify discriminants S315
Select discriminants relevant to context S320
Any relevant? S325
Yes
No
End
Generate question S330
Receive input S335
Generate new request(s) S340

Fig. 24

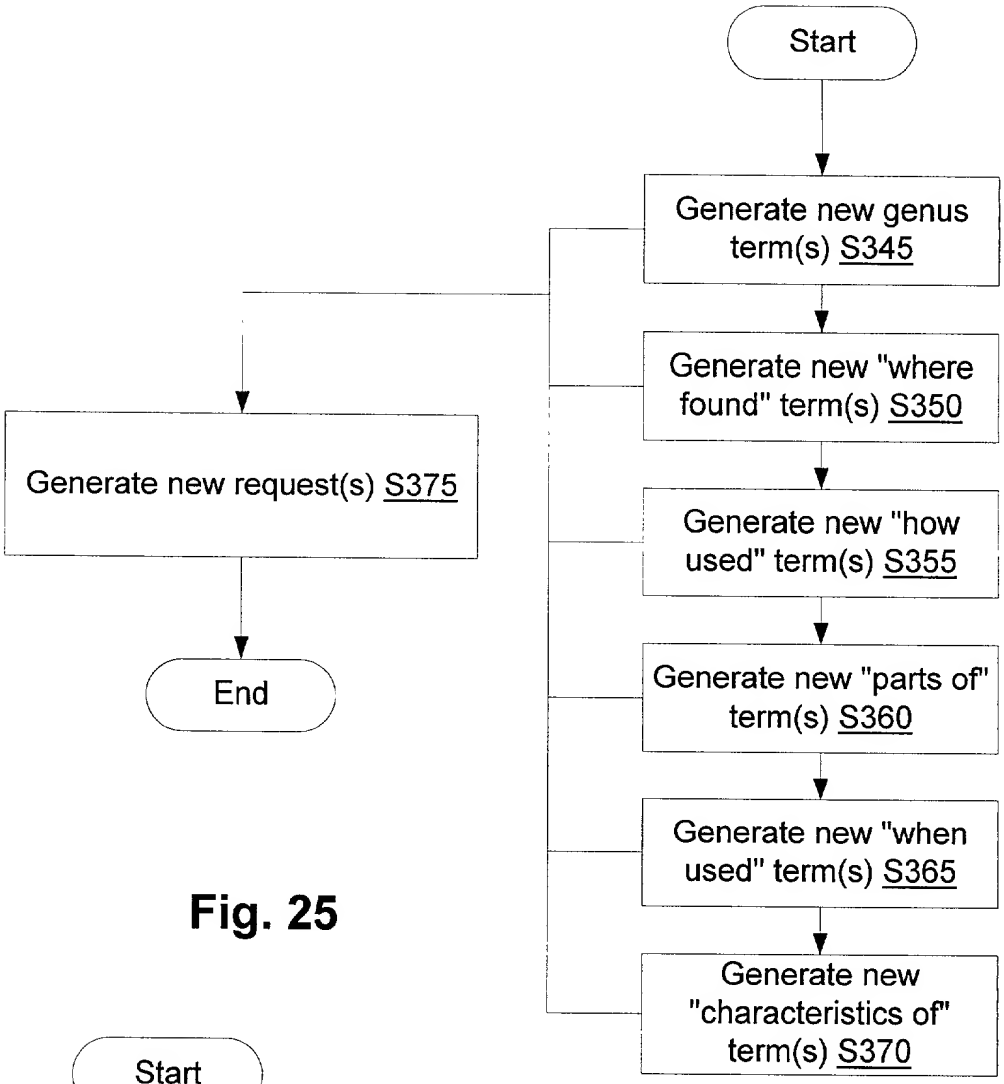
Start
Generate new genus term(s) S345
Generate new "where found" term(s) S350
Generate new "how used" term(s) S355
Generate new "parts of" term(s) S360
Generate new "when used" term(s) S365
Generate new "characteristics of" term(s) S370
Generate new request(s) S375
End

Fig. 25

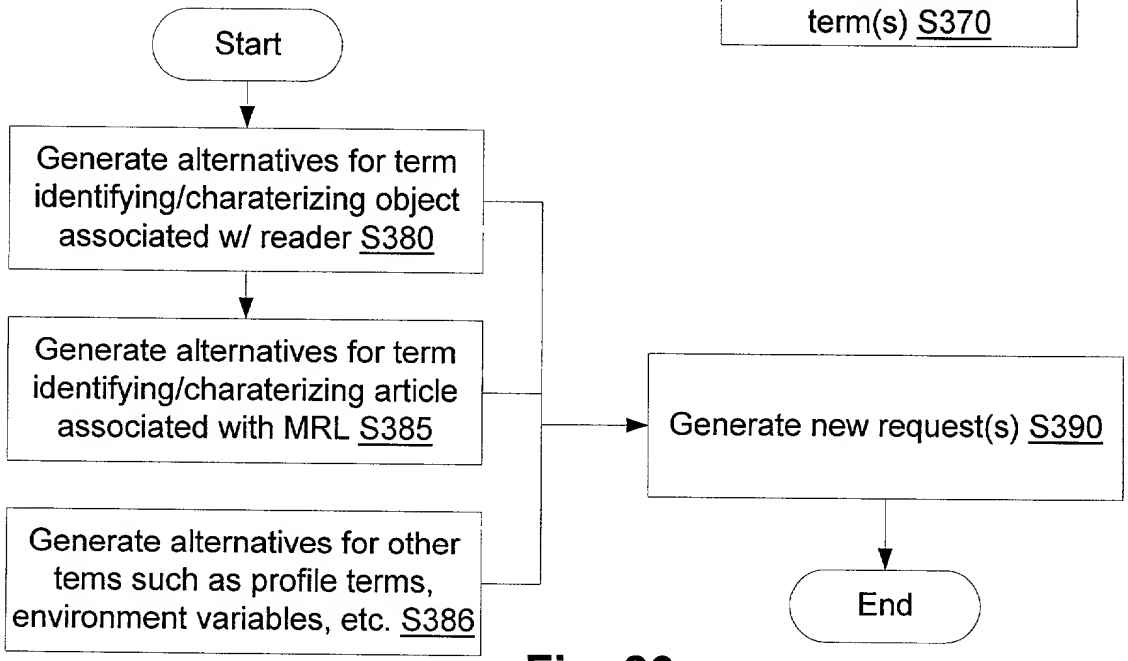
Start
Generate alternatives for term identifying/charaterizing object associated w/ reader S380
Generate alternatives for term identifying/charaterizing article associated with MRL S385
Generate alternatives for other tems such as profile terms, environment variables, etc. S386
Generate new request(s) S390
End

Fig. 26

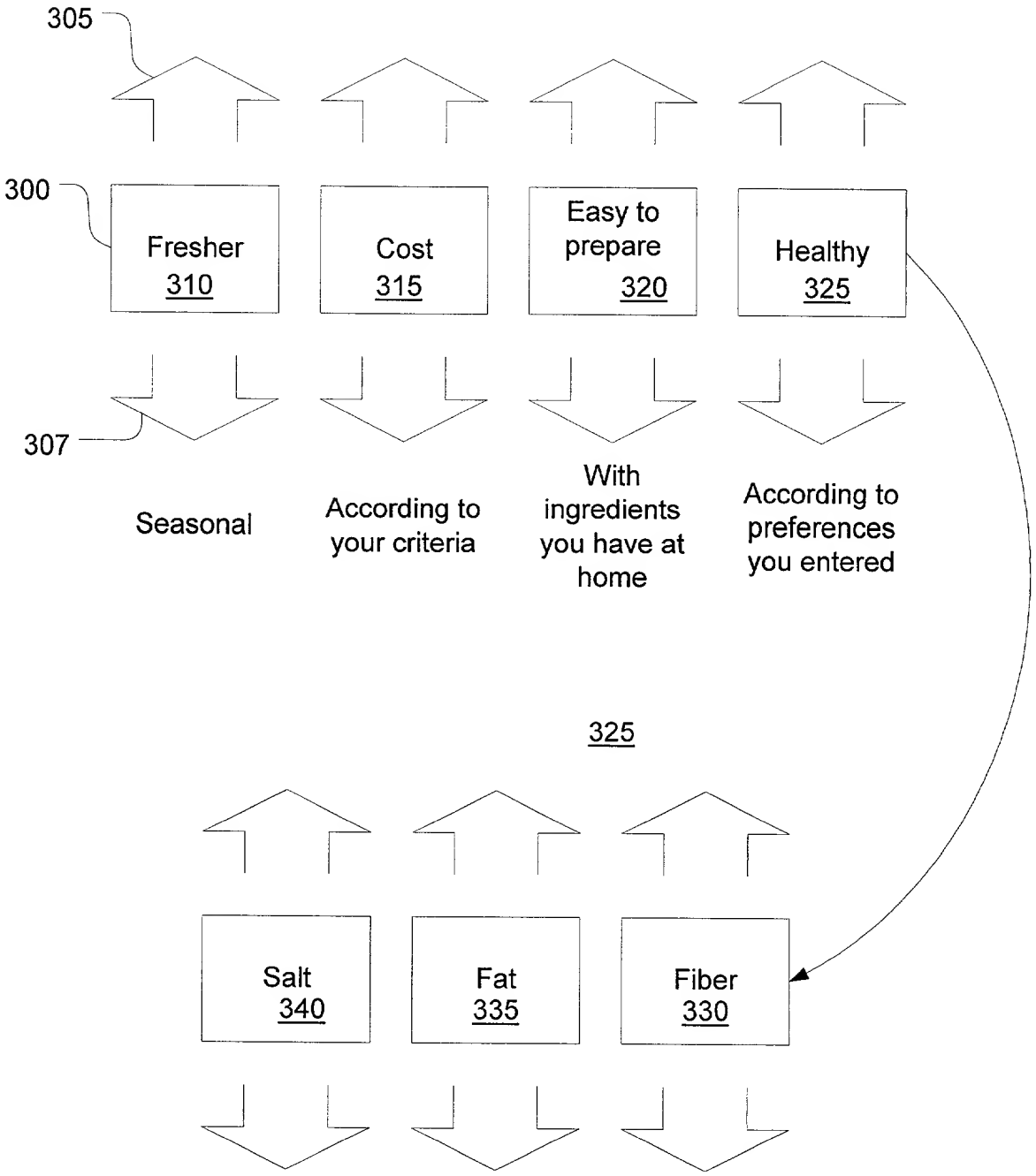
305
300
Fresher
310
Cost
315
Easy to prepare
320
Healthy
325
307
Seasonal
According to your criteria
With ingredients you have at home
According to preferences you entered
325
Salt
340
Fat
335
Fiber
330

Fig. 27

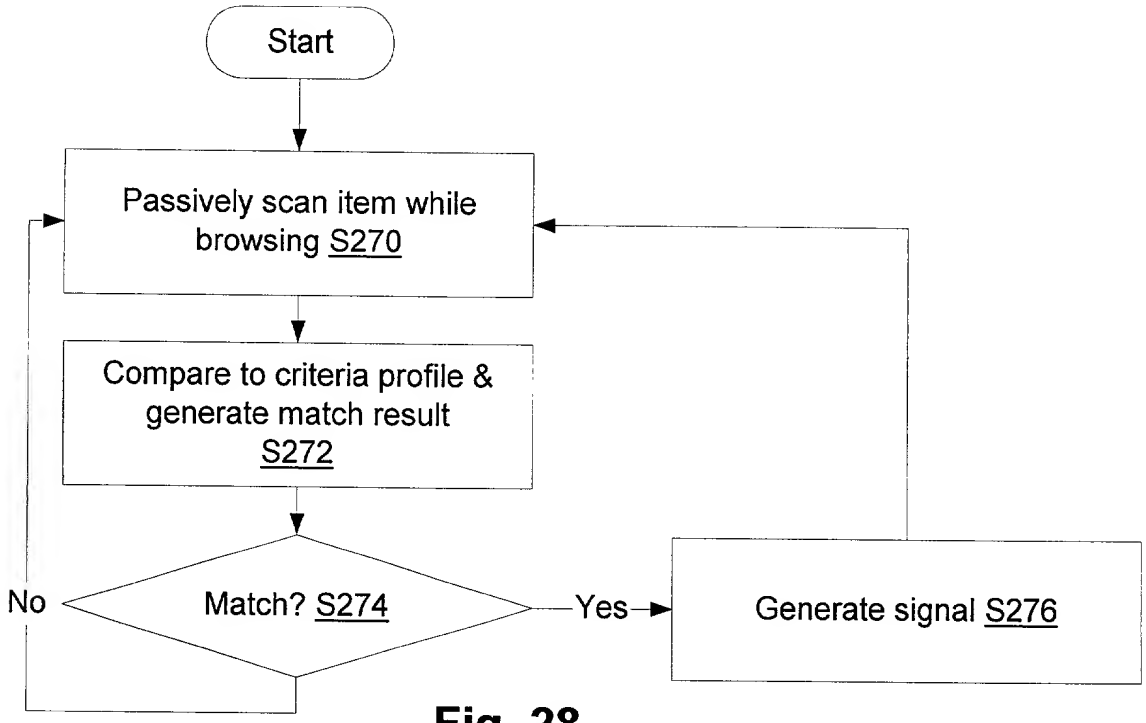
Start
Passively scan item while browsing S270
Compare to criteria profile & generate match result S272
Match? S274
No
Yes
Generate signal S276

Fig. 28

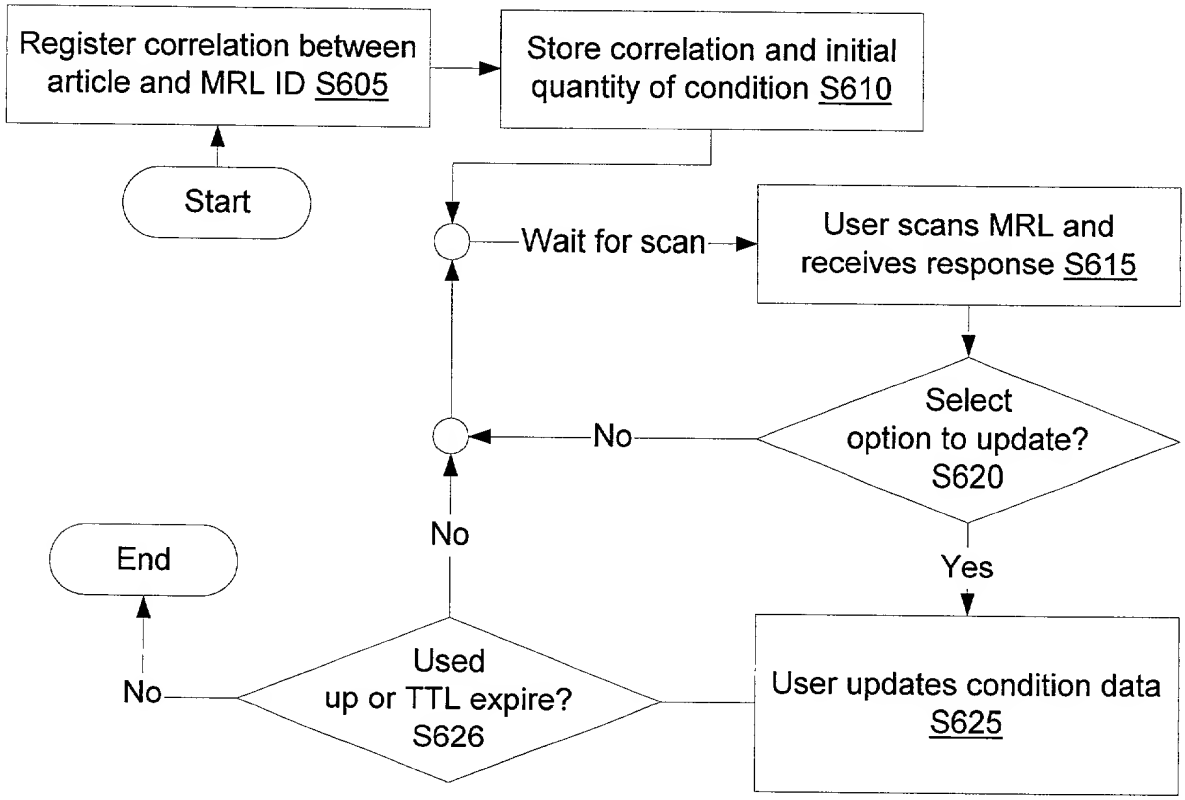
Register correlation between article and MRL ID S605
Store correlation and initial quantity of condition S610
Start
Wait for scan
User scans MRL and receives response S615
Select option to update? S620
No
No
Yes
End
Used up or TTL expire? S626
No
User updates condition data S625

Fig. 29